

LOWPASS FILTER FORMED IN MULTI-LAYER CERAMIC

Abstract

A laminated lowpass filter includes nine dielectric substrates arranged in a stack. The outer surfaces of the stack are ground planes. From top to bottom, top four layers forms a first MIM capacitor, a spiral four-port "mutually coupled coils" (MCCs) structure is placed in the middle, and then the second MIM capacitor is formed on bottom four layers. The first port ($P1''$) of the MCCs is connected to the first MIM capacitor. The fourth port ($P4''$) of the MCCs is connected to the second MIM capacitor. The second and third ports ($P2'', P3''$) constitute input and output of the laminated lowpass filter on the sides of the stack.